SAFETY COMMISSION AGENDA STATEMENT

Item 6
Meeting Date 11/13/08

ITEM TITLE: Resolution of the Safety Commission of the City of Chula Vista approving a temporary Bus Rapid Transit (BRT) station on Brandywine Avenue between East Palomar Street and Ingram Street with daytime on-street parking

SUBMITTED BY: Principal Civil Engineer

The San Diego Association of Governments (SANDAG) is planning on instituting a new Bus Rapid Transit (BRT) route along I-805 from Sorrento Valley to the Otay Ranch Town Center. The intent of the project is to reduce single occupancy vehicle trips on the regional roadway system. (See Attachment 1).

RECOMMENDATION:
That the Safety Commission accept SANDAG's report and approve a Bus Rapid Transit station on Brandywine Avenue between East Palomar Street and Ingram Street with daytime on-street parking.

DISCUSSION:
Major cities across the nation experience severe traffic congestion. New ideas are needed to safely move more people using existing resources. Many severely congested roads have 10 to 12-foot wide shoulders that could be used by transit buses to bypass congestion with little or no infrastructure improvements. The operation of buses on shoulders (BOS) is a reasonable alternative because of the limited right-of-way and the high costs associated with creating new infrastructure.

Buses traveling on shoulders can deliver a consistently reliable schedule to passengers, regardless of the traffic conditions along the route. Transit agencies could use shoulders for service, such as bus rapid transit, express, or fixed routes, along certain congested roads. Experience has provided encouraging results. On congested roads, BOS can support cost-effective multi-modal transportation choices, improve bus schedule reliability, potentially reduce operational costs, and attract more automobile drivers to buses. Allowing buses to bypass congestion would give commuters added incentive to use public transit. Each full bus takes approximately 30 to 40 cars off the road

What are Bus-Only Shoulders?

- Bus-Only Shoulders look and operate like any other shoulder but would permit certain buses to use the shoulders in designated areas in order to bypass congestion.

- Bus-Only Shoulders are not lanes for the following reasons:

- The width of a traveled lane is 12 ft and the width of a bus-only shoulder is 10 ft.

• The shoulder provides a refuge area for stranded vehicles and crashes.

• The clear zone is a lateral distance kept free of hazards to allow approximately 80% of all run-off-road vehicles to recover or come to a stop. A shoulder is part of the clear zone. If cars use the shoulder as a lane, they will have a narrower clear zone (less room to recover).

• Bus-only shoulders offer transit advantages designed to provide faster and more reliable transit commutes in congested corridors in order to promote and increase transit ridership.

Why limit the use of the Bus-Only Shoulders?
The issue of safety continues to be a concern. Transit buses would be allowed to drive on the shoulder because the following factors diminish the safety concerns:

• Transit bus drivers are professional drivers who are held accountable to the operating rules and are able to handle complex driving decisions while driving on the shoulder.
• Large transit buses can be seen by other motorists and the drivers sit high enough to see potential hazards.
• Shoulder use would be limited to a small number of vehicles and those vehicles are transit buses that directly help to reduce congestion.

SANDAG is pushing a plan to run buses on the shoulders of the region's highways and other major roads, allowing the busses to by-pass congestion and go to the head of the line at traffic signals.

This idea was pioneered in 1992 in Minneapolis, Minnesota, which has 230 miles of roadway that can accommodate buses on shoulders, according to a 2006 study by the Transportation Research Board of the National Academies.

The Federal Transit Administration (FTA) has identified the concept of Bus Rapid Transit as a means to increase the efficiency of transit operations while maintaining transit's proven safety record. According to the FTA, "BRT combines the quality of rail transit and the flexibility of buses. It can operate on exclusive transitways, HOV lanes, expressways, or ordinary streets. A BRT system combines intelligent transportation systems technology, including priority for transit vehicles, cleaner and quieter vehicles, rapid and convenient fare collection, and integration with land use policy." Due to the limited right-of-way available to build new (and possibly dedicated) lanes for BRT operations, the FTA has identified lane assist as an emerging technology, which will enable deployment of BRT systems. The premise behind lane assist technology is to increase the safety of BRT vehicles as they operate in the more unique environments, such as narrow lanes. Lane assist technology will allow BRT vehicles to operate at the desired higher operating speeds while maintaining the safety of the passengers, BRT vehicle and the motoring public.

Proposed Striping changes on Brandywine Avenue

Staff has attached the conceptual striping plan prepared by SANDAG's consultant. The roadway varies in width from 80 feet to 76 feet from north to south, and is currently striped as a four-lane road with a two-way left-turn lane and bike lanes (no on-street parking allowed). Based on the recommendation of the SANDAG report, the roadway will be reduced to a two-lane roadway with on-street parking and a bike lane in each direction. Due to the introduction of on-street parking along this segment of roadway, City staff is recommending the implementation of a "No Overnight Parking" restriction to limit long-term vehicular storage. Chula Vista Fire Station #3 is located just south of the project limits on the west side of Brandywine Avenue and will not be effected by any striping modifications induced by this proposal.

Staff considers the new BRT route to be an innovative approach to freeway congestion and helps to alleviate regional traffic impacts. This segment of Brandywine Avenue has a total average daily traffic (ADT) volume of approximately 12,500, counted in October 2008. At the intersection with East Palomar Street, minimal striping changes are expected. The southbound approach to East Palomar may become a right turn only lane. Based on this proposal for the BRT and the proposed striping changes, acceptable Levels of Service on Brandywine Avenue and the intersection at East Palomar Street will be retained. BRT service is anticipated to commence in September, 2009.

Based upon these considerations, staff recommends that the Safety Commission approve the resolution approving a temporary Bus Rapid Transit (BRT) station on Brandywine Avenue between East Palomar Street and Ingram Street with daytime on-street parking and accept SANDAG's report.

Attachments: 1) SANDAG Report entitled "Transit Park-and-Ride along Brandywine Avenue dated November 13, 2008

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ATTACHMENT 1

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November 13, 2008

File Number 1280504

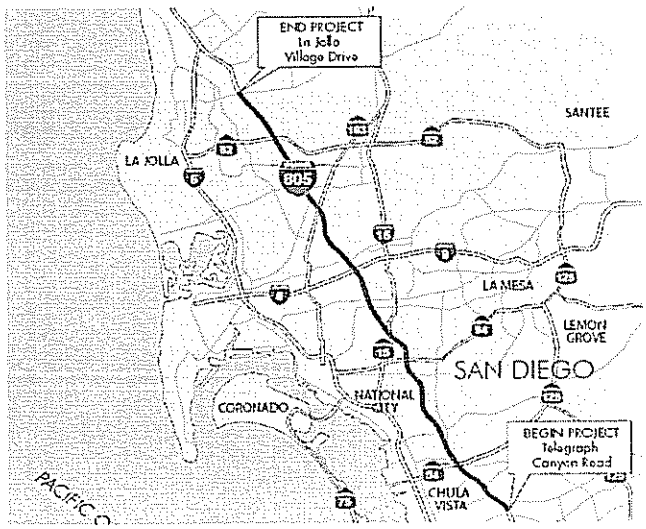
TO: City of Chula Vista Traffic Safety Commission

FROM: Jennifer Williamson

SUBJECT: Transit Park-and-Ride along Brandywine

Innovative ideas are needed to safely move more people using existing resources, as increasing levels of urban congestion create the need for new transportation solutions. For public transportation operations, congestion results in added travel time, reduced on-time performance, and increased operating costs. One proven solution is to bypass congestion through the use of exclusive bus lanes. This transit priority solution improves operations for buses, reduces travel time for transit users, and can also increase the interest of the public in transit service (increasing ridership). In short, transit-only lanes are a way to improve mobility at relatively low cost through incremental investment in a combination of bus infrastructure, equipment, operational improvements, and technology.

Figure 1
I-805 Transit Only Lane Project Study Limits



Potential Benefits of Implementing the Project

1. Pilot project to test Vehicle Assist and Automation (VAA) technology components including lane keeping, forward collision prevention and side collision prevention, cruise control, etc.
2. A multi-modal strategy to increase public transportation use.
3. Guaranteed transit travel time for daily commuters.
4. Public acceptance for maximizing roadway efficiency and providing transportation choices.

Safety Measures Required for Implementation

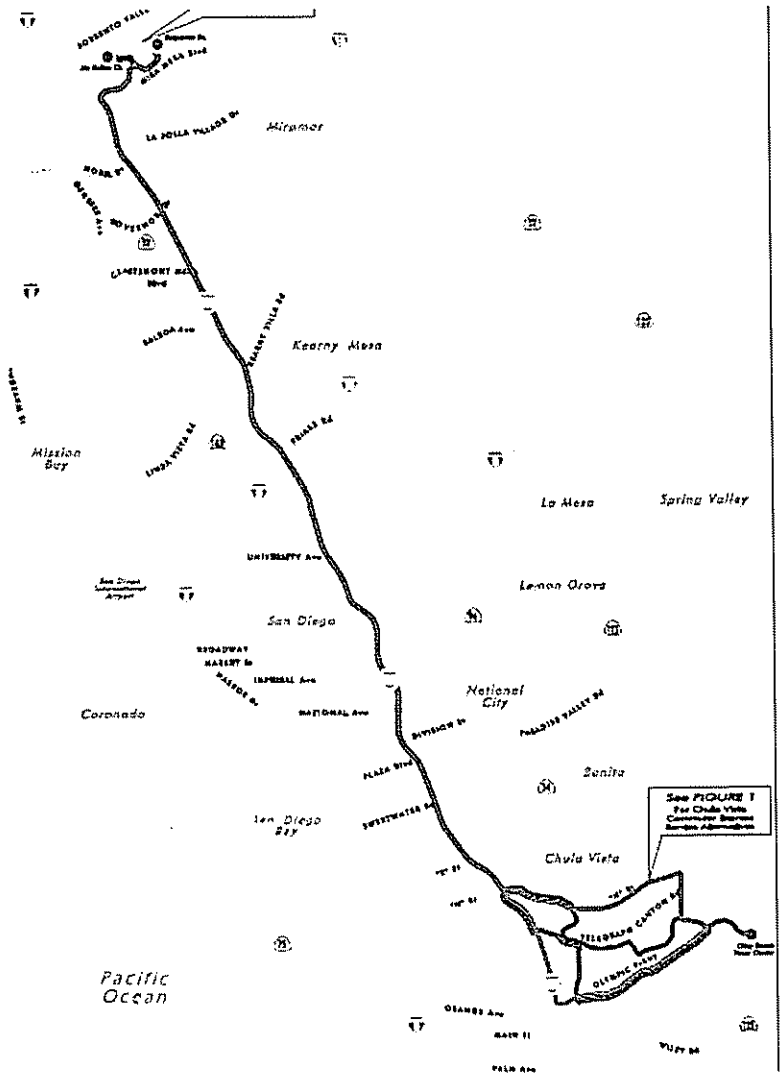
1. Trained professional bus drivers; special driver training.
2. Low operation speed (35 mph) with technology component without stopping sight distance issues.
3. Speed differential between the BRT lane and #1 general purpose (GP) lane traffic will be limited to 15 mph.
4. Enhanced Freeway Service Patrol (FSP) to remove disabled vehicles from the inside shoulders.
5. Pave remaining median (6-foot or 14-foot) as an inside shoulder along this corridor for disabled vehicles to park under emergency conditions.

Bus drivers can override the technology if the bus needs to bypass a disabled vehicle in the BRT lane.

The San Diego Association of Governments (SANDAG), Metropolitan Transit System (MTS), and the California Department of Transportation (Caltrans), working in partnership with the U.S. Department of Transportation (USDOT), Federal Transit Administration (FTA), Federal Highway Administration (FHWA), and the Research and Innovative Technology Administration (RITA) are proposing to implement the Interstate 805 (I-805) Transit Only Lane project. The project limits on I-805 are from Telegraph Canyon Road in the City of Chula Vista north to Miramar Road/La Jolla Village Drive in the City of San Diego.

SANDAG evaluated a number of alternative arterial alignments within Eastern Chula Vista for Bus on Shoulder (BOSS) operation. A route that uses Telegraph Canyon Road, Brandywine and Olympic Parkway was ultimately chosen because it provided the fastest running time and had the most opportunity to maximum park-and-ride options. In order for this route to work, we will need two BRT stops, one on Brandywine and one on Telegraph Canyon Road.

Figure 2 – BOSS Route Alignment



The main focus of the project is to deliver an innovative transit service using state-of-the-art vehicle guidance and lane-assist technology that allows for more efficient roadway usage by converting a freeway shoulder to a dedicated bus-way. This two-year pilot program will provide for the operation of transit service using **vehicle guidance and lane assist technologies**. The I-805 Transit Only Lane project will allow buses to operate on an 11-foot freeway lane using longitudinal and lateral control sensors. Buses will also use surface streets in the Otay Ranch community and the Sorrento Valley/University Town Center area.

Figure 3

I-805 Transit Only Lane - Rendering

Chula Vista/Brandywine Avenue Improvements

The nature of this service is largely commuter based. Because of this, park-and-ride lots will be essential to the success of the route. SANDAG will be developing a park-and-ride lot at the Otay Ranch Town Center that will provide up to 250 spaces of park-and-ride. What our modeling has shown us is that there will be more demand for parking closer to the I-805 freeway to allow for communities closer to the freeway to have access to the route.

There will be two proposed bus stops on Brandywine Avenue for the I-805 Transit Only Lane project (see Figure 4). To provide parking for the transit users, approximately 69 parallel on-street parking stalls (8' x 22') will be proposed along the two sides of Brandywine Avenue. Due to the City of Chula Vista's Fire Station 3 being located on the west side of Brandywine Avenue south of Ingram Street, the potential number of parking stalls is limited. However, the length of the parking stall could be reduced to 18-20 feet if more parking stalls have to be provided. The following improvements are required for the project:

Brandywine Avenue: Reduce the number of through lanes from two to one in both directions between Ingram Street and East Palomar Street. Remove existing striping and re-stripe the street for parallel on-street parking (approximate 69 stalls) and one bike lane on both sides of the street. Two bus stops will be proposed along this street. No bus shelters will be proposed. Adjust the traffic signal, if necessary.

Medical Center Drive: Re-stripe the southbound (SB) lanes to allow one right turn only pocket, one SB through lane and one SB left turn only pocket. Adjust the traffic signal, if necessary.

JWI/ais

LEGEND

PROPOSED EXPRESS STOP - ⊗

EXISTING BUS SERVICE
ROUTE: 704, 712

EXISTING
LAND USE: LOCAL St

EXISTING PARKING: NO

EXISTING PARKING SPACES
TO REMAIN: 0

EXISTING HC SPACES
TO REMAIN: 0

PROPOSED APPROXIMATE
ADDITIONAL SPACES: 69

TOTAL SPACES: 69

EXISTING P&R: NO

IMPROVEMENTS REQUIRED:
ADDITIONAL SIGNAGE
RESTRIPING

FIGURE 4 - CONCEPTUAL STRIPING PLAN

CH2MHILL

PROPOSED
PARK AND RIDE
BRANDYWINE Ave. / E. PALOMAR St.

RESOLUTION NO. SC-2008-_____

RESOLUTION OF THE SAFETY COMMISSION OF THE CITY OF CHULA VISTA APPROVING A TEMPORARY BUS RAPID TRANSIT (BRT) STATION ON BRANDYWINE AVENUE BETWEEN EAST PALOMAR STREET AND INGRAM STREET WITH DAYTIME ON-STREET PARKING

WHEREAS, innovative ideas are needed to safely move more people using existing resources. For public transportation operations, congestion results in added travel time, reduced on-time performance, and increased operating costs; and

WHEREAS, one proven solution is to bypass congestion through the use of exclusive bus lanes. This transit priority solution improves operations for buses, reduces travel time for transit users, and can also increase the interest of the public in transit service (increasing ridership); and

WHEREAS, the San Diego Association of Governments (SANDAG), Metropolitan Transit System (MTS), and the California Department of Transportation (Caltrans), working in partnership with the U.S. Department of Transportation (USDOT), Federal Transit Administration (FTA), Federal Highway Administration (FHWA), and the Research and Innovative Technology Administration (RITA) are proposing to implement the Interstate 805 (I-805) Transit Only Lane project; and

WHEREAS, the main focus of the project is to deliver an innovative transit service using state-of-the-art vehicle guidance and lane-assist technology that allows for more efficient roadway usage by converting a freeway shoulder to a dedicated bus-way. This two-year pilot program will provide for the operation of transit service using vehicle guidance and lane assist technologies. The I-805 Transit Only Lane project will allow buses to operate on an 11-foot freeway lane using longitudinal and lateral control sensors; and

WHEREAS, the project route within the City of Chula Vista is from the interchange at I-805/Telegraph Canyon Road to Otay Ranch Towne Center by way of Telegraph Canyon Road, Brandywine Avenue and Olympic Parkway; and

WHEREAS, a report is being presented regarding the proposed project route, with recommended stops on Brandywine Avenue between East Palomar Street and Ingram Street and a request for daytime on-street parallel parking.

NOW, THEREFORE, BE IT RESOLVED that the Safety Commission of the City of Chula Vista approves a temporary Bus Rapid Transit (BRT) station on Brandywine Avenue between East Palomar Street and Ingram Street with daytime on-street parking.

PASSED AND APPROVED by the Safety Commission of the City of Chula Vista, California, this 13th day of November 2008 by the following vote:

AYES:	Commissioners:
NAYS:	Commissioners:
ABSENT:	Commissioners:

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John Liken, Chair

ATTEST:

_____
Florence Picardal, Secretary